

SPECIFICATION FOR INSPECTOR SEAT ASSEMBLY FOR WAG-9, WAP-7 & WAP-5 3-PHASE ELECTRIC LOCOMOTIVE OF INDIAN RAILWAYS

SPECIFICATION No. CLW/MS/3/160 ALT.0

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ISSUED BY:

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ALTERATION RECORD SHEET

ALT. No.	DATE	DESCRIPTION	REASON	SIGNATURE

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TECHNICAL SPECIFICATION OF INSPECTOR SEAT ASSEMBLY FOR WAG-9, 3-PHASE ELECTRIC LOCOMOTIVES OF INDIAN RAILWAYS.

1. **SCOPE:**

This technical specification covers the minimum requirement of design, manufacture, testing and supply conditions of Inspector Seat Assembly used in WAG-9HC, WAP-7 & WAP-5, 3-Phase electric locomotives of Indian Railways.

2. **SCOPE OF SUPPLY:**

02 Nos. of assembled foldable Inspector Seat Assembly per loco to be supplied as per drawing no. 1209-08.031-301 Alteration-0 or latest.

3. **GENERAL:**

3.1 The foldable inspector Seat Assembly consists of angle support assembly, seat assembly with cushioned seat, torsion spring and foot rest pipe assembly.

3.2 Two Nos. inspector seats shall be installed per locomotive, with one seat in each driver's cab behind loco pilot's seat for sitting the inspecting official to provide the crew regular counseling, monitoring and training for efficient and safe working and operation of the loco on the line.

3.3 The inspector seat features with a foldable design, allowing it to be securely closed when not in use to maximize space in the driver's cab.

4. **TECHNICAL REQUIREMENT:**

4.1 Inspector Seat Assembly including hardware items shall conform to appropriate specifications as per drawings.

4.2 Standard cushion material of fire retardant cellular silicon foam to be used as per RDSO Specification no. RDSO/2013/CG-13 Revision 01 or latest.

4.3 Vinyl coated upholstery fabric (Artificial Leather) of black colour for cover of inspector's seat shall conform to RDSO Specification No. RDSO/2008/CG-07 Revision 01 or latest.

4.4 Conditioning Temp. $27 \pm 2^\circ\text{C}$ & $65 \pm 5\%$ relative humidity to be maintained.

4.6 The material used shall withstand the climatic and environmental conditions mentioned in Para 5 and shall be fungus-resistant and conductive.

5. **CLIMATIC AND ENVIRONMENTAL CONDITIONS**

5.1	Ambient Temperature	0 °C to 60°C
5.2	Maximum Temperature	75°C
5.3	Humidity	100% Saturation during rainy season.

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- 5.4 Rainfall Very heavy in the continent
- 5.5 Coastal Area High humidity, salt laden atmosphere.

6. MANUFACTURE:

- 6.1 inspector Seat assembly to be manufactured as per CLW drawing no. 1209-08.031-301 Alteration-0 or latest.
- 6.2 Welding whenever required to be done properly as per IS: 812, IS: 813, IS: 814 & IS 822 with proper grade of electrodes, current etc.
- 6.3 RDSO Specification No. RDSO/2013/CG-13 Revision 01 or latest is to be followed for fire retardant cellular silicon foam cushioning material for the seat cushion.
- 6.4 RDSO Specification No. RDSO/2008/CG-07 Revision 01 or latest to be followed for the cover of inspector's seat.
- 6.4 Steels used in manufacturing in seat shall conform to material specifications mentioned in the respective drawings.
- 6.5 Jig and Fixture to be used to maintain the geometry of the assembly.
- 6.6 Color of painting of frame should be of Pebble grey as per RAL 7032. Painting should be smooth without any scratch, bubbles, peelings, etc.
- 6.8 The seat should lock securely in both folded and unfolded positions.

7. INSPECTION AND TESTING:

- 7.1 Nominated representative of purchaser will carry out the inspection of prototype sample. All the necessary tests conducted during inspection shall be arranged and borne by the supplier.
- 7.2 The Cushioning Foam material shall conform to the parameters given in RDSO Specification No. RDSO/2013/CG-13 Revision 01 or latest.
- 7.3 Vinyl coated upholstery fabric (Artificial Leather) for cover of inspector's seat shall conform to the parameters given in RDSO Specification No. RDSO/2008/CG-07 Revision 01 or latest.
- 7.4 The seat shall withstand a static load of 150 kg without deformation. The inspector's seat shall be subjected to a static load of 150 kg uniformly distributed over the entire seat surface for 30 minutes. There shall be no permanent deformation, breakage, or structural damage
- 7.5 It shall be deemed to have passed the test without damage or permanent deformation to the seat fixings.
- 7.6 All the tests shall be witnessed by authorized representative of the purchaser.
- 7.7 Prior to prototype inspection CLW's Representative will be deputed to seal the sample piece of the material specified for test in the Govt. approved/ RDSO approved test Lab. The lab test report should

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be produced at the time of prototype inspection.

7.8 Standard fasteners of M/s TVS, M/s LPS and M/s UNBRAKO & KUNDAN or from CLW/BLW approved sources of its own brand/make shall be used in the assembly.

7.9 The seat shall be folded and unfolded 150 times in a continuous cycle. Each cycle shall consist of a full folding and unfolding action of both seat & foot rest, simulating real-life usage. The seat should function smoothly without excessive wear, breakage, or failure of any component.

7.10 Colour of painting to be tested by RAL shade card.

8. SUPPLY OF DOCUMENT:

8.1 Material Certificate indicating the specification.

8.2 All the test certificates as mentioned in Para 7 to be submitted.

9. LABELLING/MARKING:

(i) Name of the product.

(ii) Month and Year of Manufacture.

(iii) Name of the manufacturers with Trade Mark, Code No. and Batch No.

10. WARRANTY/GUARANTEE:

The seat shall be designed for a lifespan of five years and shall ensure that the strength of the seat structure and its attachment to the locomotive are not compromised by environmental factors or in-service wear over the specified period.

11. PACKAGING & DELIVERY:

Protective packaging to be done which is suitable for the transport and storage under the climatic and environmental conditions mentioned in Para 5 and which will prevent any damage to the material during handle, transit and storage. Special care should be taken to protect the cushion & cover by means of bubbled plastic wrap.

12. Any deviation with a view to improve the performance of the inspector seat may be given due consideration, keeping the overall dimension same, full particular with justification should be furnished for approval of CLW thereby. Only the successful tenderers will get detailed drawings.

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